DOCUMENT RESUME

CE 060 713 ED 344 003

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TITLE

Exploring New Worlds: Trades and Technical

Occupations for Women.

INSTITUTION

Wisconsin Univ., Madison. Vocational Studies

Center.

SPONS AGENCY

Wisconsin State Board of Vocational, Technical, and

Adult Education, Madison.

PUB DATE

Jul 91

NOTE

73p.

AVAILABLE FROM Vocational Studies Center, University of

Wisconsin-Madison, 964 Educational Sciences Building,

1025 West Johnson Street, Madison, WI 53706.

PUB TYPE

Guides - Classroom Use - Instructional Materials (For

Learner) (051)

EDRS PRICE DESCRIPTORS MFO1 Plus Postage. PC Not Available from EDRS. Apprenticeships; *Career Choice; Career Planning;

Citations (References); Educational Resources;

*Females; Job Training; *Nontraditional Occupations; Postsecondary Education; Secondary Education; Sex Bias; Sex Fairness; *Sex Stereotypes; *Skilled Occupations; *Technical Occupations; Videotape

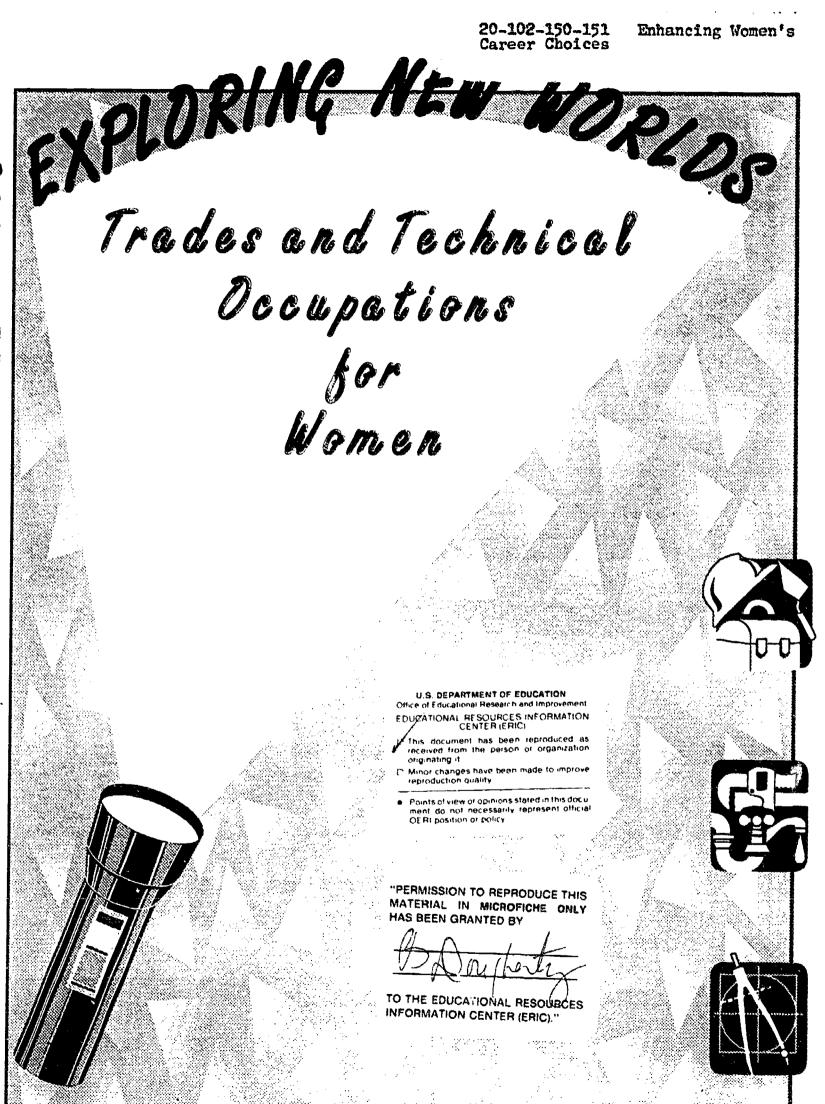
Recordings; Womens Education

ABSTRACT

This workbook is designed to help girls and women explore the possibility of a career in nontraditional occupations, such as trade and technical occupations. It is organized in eight sections that cover the following topics: planning a career, knowing what you like, nontraditional choices, working in the skilled trades, working in the high-tech fields, hearing from women who have been there, pursuing new possibilities, and choosing your own pat... Sections include self-quizzes with answers; activity pages to list skills, experiences, and values; and checklists. The book also lists support networks for women in science, medicine, and engineering; mathematics; sales; communications; business and professional areas; trades; computers; and general areas. Nine books and magazines and four videotapes are suggested. (KC)

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EXPLORING NEW WORLDS Trades and Technical Docupations for Women

by

Margaret A. Nash

Vocational Studies Center
University of Wisconsin-Madison
School of Education
July 1991



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Development of this publication was supported by the Wisconsin Board of Vocational, Technical and Adult Education (WBVTAE), through the Sex Equity set-aside of the Carl Perkins Vocational Education Act, P.L. 98-524 administered by Fran Johnson, Sex Equity Consultant. Barbara Dougherty of the Vocational Studies Center, University of Wisconsin-Madison, was Project Director.

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Acknowledgements

Many people were involved in the development of this workbook. Barbara Dougherty, Senior Outreach Specialist at the Vocational Studies Center, supervised the project.

A draft of the workbook was sent out for review, and the comments we received were enriching. Reviewers were: Jane Boyer, Madison Area Technical College; Nan Brennan, Chippewa Valley Technical College; Mary Jo Coffee, Waukesha County VTAE District; Eyvonne Crawford-Gray, Wisconsin Department of Public Instruction; Karen Isebrands, Nicolet Area Technical College; Beth Pierce, Blackhawk Technical College; Barbara Read, Chippewa Valley Technical College; Linda Scharnberger, Employment Options; Barbara Schuler, Wisconsin Department of Public Instruction; and Sheila Thompson, Ohio Department of Education. Roger Lambert of the Vocational Studies Center also provided critical suggestions.

Thanks also to Cheryl Wiley-Thomas and Mary Gavin of the Vocational Studies Center for proofreading and for making editorial suggestions.

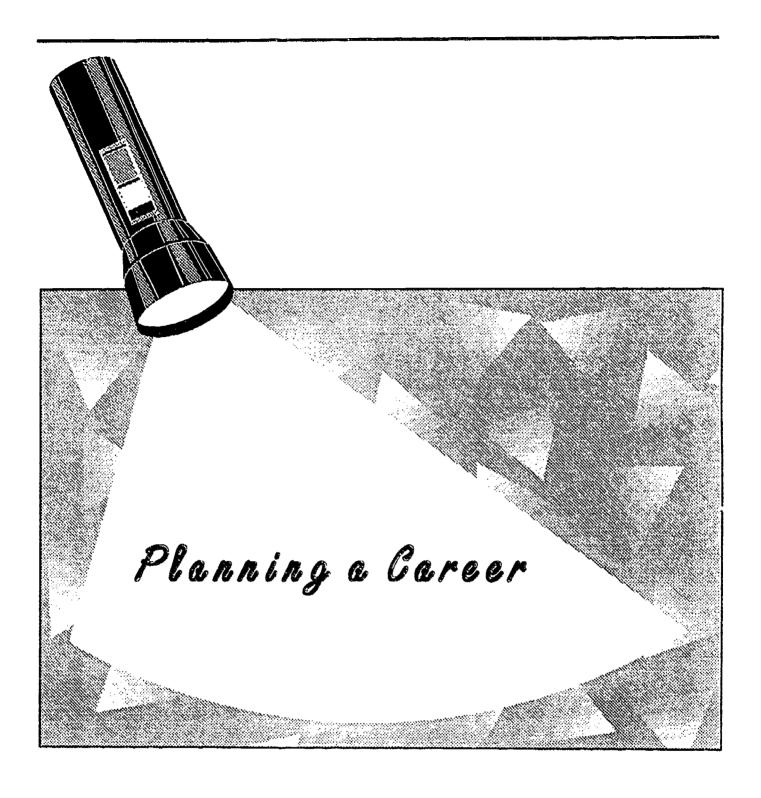
Terri Bleck, Graphics Specialist at the Vocational Studies Center, designed the workbook. Special thanks to Terri for her creativity and technical know-how.



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Why should I plan a career?

Because you probably will work outside of the home for most of your adult life.

The average woman in the U.S. works outside the home for 34 years of her life.

Whether or not you get married, your income will be needed to help support yourself and your family. Very few families can make ends meet on one person's income.

The smart woman is prepared. Divorce, separation, and unexpected death leave millions of women single, often with children to provide for. In addition, millions of women choose to remain single throughout their lives, and many of these women choose to become single parents.

Think about it: 34 years

50 weeks a year 5 days a week 8 hours a day

Why not plan to do something you like and that pays well?



This workbook is designed to help you explore some career choices that you might not have thought about.

Traditionally, the jobs women go into are secretarial, waitressing, teaching, or domestic work (cooking and cleaning for others).

These are fine professions—if that is what you really want to do.

Many women have gone into traditional jobs because they didn't know they had a choice. But you do have a choice. There are thousands of jobs open to you.

In this workbook you will learn about some careers that are nontraditional for women. You will also consider which fields match your interests and abilities. This workbook guides you through an action plan as you pursue new career opportunities.

First, take the quiz on the next page to find out how much you already know about women in the workplace.



?

How Much Do You Know about Women in the Workplace?

1.	How many women with preschool children were in the workforce in 1988?			were in the		
			12 percent 35 percent		c. d.	56 percent 65 percent
2.			y families consist of a vife who stays at hom			
			4 percent 10 percent			24 percent 30 percent
3.			ow many women betw d workforce?	ween the	age	s of 25 and 34 were
			15 percent 25 percent			55 percent 90 percent
4.	What i	is th	ne largest occupation	for wome	n?	
			secretarial doctor			nurse teaching
5.			ow much did women ned by men?	workers (earı	n compared to each
		b. c.	55 cents 65 cents 85 cents \$1—exactly the same	as men		



?

6.	Why do	women work outside the home?
		a. to pay their bills b. to contribute to society c. for a sense of achievement d. all of the above
7.	Women	earn less money in the labor force because:
		 a. they tend to work in lower paying jobs b. they lack training for higher wage occupations c. sex role stereotyping limits work roles for women who could earn higher salaries if they were trained and educated for them d. all of the above
8.	nontrad	iny women work in nontraditional jobs? (Women in itional jobs work as architects, pilots, car mechanics, rs, construction workers, skilled trades, and others)
		 a. 30 percent (of women working outside the home) b. 20 percent c. 17 percent d. 9 percent
9.		salaries for women in traditional jobs compare to for women in nontraditional jobs?
		 a. Traditional jobs pay 10-20 percent more b. Traditional jobs pay 20-30 percent more c. Nontraditional jobs pay 20-30 percent more d. Nontraditional jobs pay 50-60 percent more



Answers to the Quiz

- c. In 1988, 56 percent of all women with preschool children –
 or 8.9 million-were in the workforce. In 1960, just 19
 percent were.
- a. Four percent of U.S. families are the "traditional nuclear" family. By the year 2000 it is predicted that this will be only 2 percent.
- 3. d. As of 1990, 91 percent of women between the ages of 25 and 34 were in the workforce.
- 4. a. Secretarial work still is the largest occupation for women, just as it has been for the past twenty years.
- 5. b. Women workers, employed year-round, full-time in 1987 earned 65 cents for each dollar earned by men.
- 6. d. Women work for all of the reasons listed and for the same reasons men do: to meet financial obligations, to achieve a sense of contribution to society, and to achieve a sense of personal fulfillment.
- 7. d. All of the reasons listed are reasons why women earn less than men in the labor force.
- 8. c. In 1988, nine percent of all working women or 4.7 million women—were employed in nontraditional occupations.
- 9. c. Women in nontraditional jobs earn 20-30 percent more than women in traditional occupations.



Sources: Career Opportunity News, Vol. 6, No. 3, 1988, National Commission on Working Women of Wider Opportunities for Women, and U.S. Department of Labor, Bureau of Labor Statistics, Facts on Working Women, No. 90-2.

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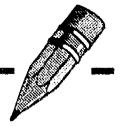
Thinking About the Quiz

id any of the answers surprise you? If so, how?	
Vhat new thoughts do you have about planning your care	eer?
vnat new thoughts do you have and h	









What Experience Do You Have?

Almost every experience you have compares to a job you could do for pay.

Experience

Possible Job/Career

Taking care of children

child care provider

Feeding your family

cook, chef, waitress, dietician

Balancing your checkbook

bookkeeper, accountant, banker

Gardening

landscape designer or

groundskeeper

Building shelves

carpenter

Changing oil in the car

service station attendant

Fixing broken things

mechanic or engineer

Other experiences may indicate a "transferable skill" – an ability that, with training, can be used in another way. The ability to sew clothes from a pattern or do needlework can transfer to the ability to read blueprints. The ability to lift children or grocery bags can transfer to doing physical labor in the skilled trades.

Take a few minutes to think about experience you have, whether you were paid for your work or not. Include volunteer work.

On the next page, write down all the things you already know how to do.





My Skills and Experience

At Home:		
Leisure Time and Hobbies:		
Leisure Time and Hobbies.		
Job and Volunteer Experience:		
12		····
A. Gad	16	





What Do You Like To Do?

Check all the ones that describe things you enjoy.

Do you like	to:
	Be physically active (walk, run, bike, etc.)?
·	Be outdoors?
	Learn or read about (or experiment with) science? Take a shop class?
	Put things together, repair things, or build things? Use tools?
	Try to figure things out for yourself?
	Design or create things?
*** /*	Work with your hands?
	Complete projects from start to finish?

If you checked any of the preferences on this list, you might be a perfect candidate for a nontraditional—and higher-wage paying—occupation.

Look at the Who Am I? checklist on the next page.







Who Am I?

Each of us have personalities that are unique. Certain personality traits make us more suited to one type of job or another.

Put a check mark by any of the following personality traits that describe you.

assertive*+
self-directed*+
like to be challenged*+
risk-taker*
determined*+
logical*+
imaginative, creative*+
objective*
good at problem-solving, analytical*+
interested in ideas and things*+
independent*+
good with details+
resourceful*
like variety on the job*
take pride in doing a job well+

Can you do a nontraditional job? See the next page for the results.

Sources: *"Gender Differences within Type," "Women in Nontraditional Skilled Trades," K. Isebrands, Association of Psychological Type, 1991, and +High-Tech Career Strategies for Women, J.R. Goldberg, NY: Collier Books, 1984.



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Did you check off many of the personality traits on the previous page?

Those characteristics are similar to those of women who work in technical fields and skilled trades. The traits marked with a * are traits often found in women in the skilled trades. The traits marked with a + are traits often found in women in high-tech fields. Many traits are common to both fields.

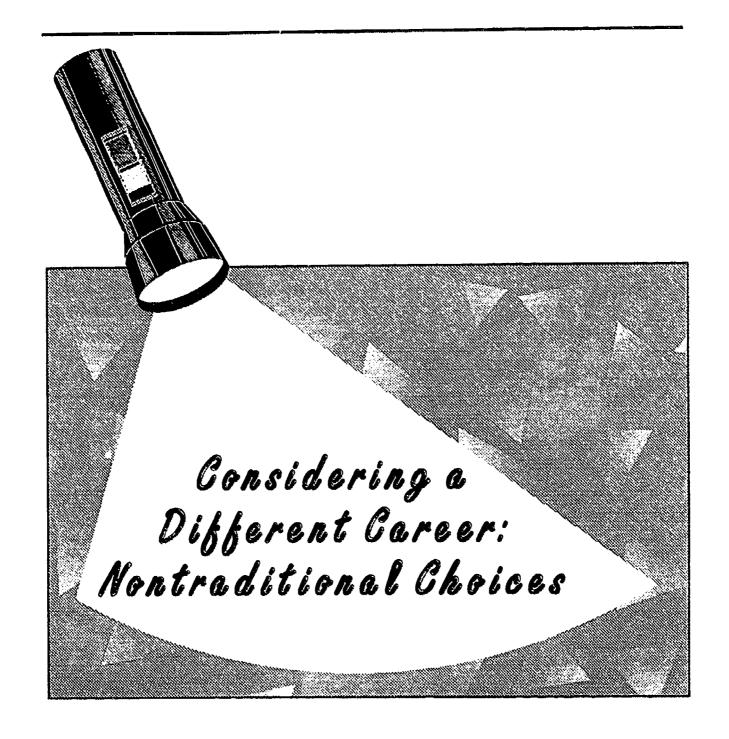
The starred traits (*) match up with the characteristics of a certain personality type, the Intuitive Thinker (NT), on the Myers-Briggs Type Indicator. A career counselor can offer you the opportunity to find out more about your personality type through the Myers-Briggs Type Indicator, the BEM Inventory, or other personality inventories.

If you checked many of the personality traits on the previous page, a career in trades or technology may suit you.

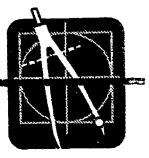
If you checked only one or two, or none at all, don't rule out one of these occupations. While the personality traits listed on the previous page are the most common, still, women of all personality types are represented in those fields. Working in one of these fields might be more of a challenge for you. You might want to develop certain skills—take assertiveness training, for instance.

The bottom line is: what do you have to lose by exploring all of your options?









When women who work in trades and technical occupations were asked what they liked about their work, they said: the chance to



the independence on the jobs



satisfaction of creating or repairing something

the personal



keep learning and develop-

ing new

skills

the higher wages I earn working with a great group of people who respect me for what I know and for my skills

> the benefit package - full health coverage for the whole family



Dollars and Cents

When you think about making a career choice, you need to think about "occupational outlook." The occupational outlook tells you how many jobs there are in a certain field, what the starting salary is, how much of a raise you can expect, and how many jobs there are likely to be in that field ten years from now.

Later on in this workbook you will find out the occupational outlook for two occupations that interest you.

For now, compare the occupational outlooks for the positions described below:

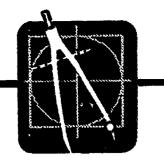
	Average Weekly Salary	# of jobs in 1990	Growth in
TRADITIONAL FOR WOME	N		
Childcare Worker	\$132	670,000	Great growth
Dental Assistant	\$300	91,000	12% growth
Sales Clerk (apparel)	\$210	4,571,000	Great growth
Secretary	\$343	3,373,000	12% growth
Waitress	\$194	1,800,000	Varies
NONTRADITIONAL FOR W	OMEN		
Bricklayer	\$506	167,000	12% growth
Carpenter	\$412	1,106,000	12% growth
Computer Programmer	\$654	519,000	Great growth
Computer Systems Analyst	\$744	403,000	Great growth
Electrician	\$524	542,000	12% growth
Plumber and Pipefitter	\$508	396,000	12% growth

Source: Occupational Outlook Handbook, 1990-1991 Edition, and Employment and Earnings, January 1991, both by U.S. Department of Labor, Bureau of Labor Statistics; and Occupations Handbook, 1990-91, Wisconsin Career Information System, Vocational Studies Center, University of Wisconsin-Madison.

Of course, all of these figures vary according to level of experience and where you live. Some parts of the country will pay higher salaries for certain jobs than other parts of the country. Also, there may be more job openings in one part of the country than another. Later on in this workbook you will check out the occupational outlook for two occupations of your choice in your own state.



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Some Alternative Career Choices

Construction Trades

Bricklayer, Stonelayer, Marble Mason, Tile Setter, Carpenter, Cement Mason, Construction Equipment Mechanic, Electrical (Construction), Glazier, Iron Worker, Painter, Plasterer, Plumber, Roofer, Sheet Metal Worker, Sprinklerfitter, Steamfitter

Industrial Trades

Maintenance Carpenter, Industrial Design, Mechanical Design, Plastic Mold Design, Tool Design, Die Sinker, Drafter (Architectural, Electrical, Furniture Detailer, Mechanical, Structural Steel Detailer, Utilities), Electrical Maintenance, Electric Motor Repair, Electrical Technician, Foundry Technician, Metal Caster, Mold Maker, Die Maker, Metal Engineer, Tool & Die, Industrial Truck Mechanic, Instrument Repair, Machine Adjuster, Machine Erector, Machine Repair, Machinist, Metal Fabricator, Blacksmith, Cabinet Maker, Glass Blower, Heat Treater, Lumber Grader, Stone Cutter, Tool Grinder, Patternmaker, Pipefitter Maintenance, Welder

Services Trades

Auto Body Repair, Auto Mechanic, Business Machine Repair,
Communications Line Worker, Electric Line Worker, Farm Equipment
Mechanic, Firefighting, Fire Medic, Gas & Electric Service, Meat Cutter,
Metering Technician, Optical Technician, Radio & TV Repair, Small Engine
Mechanic, Surveyor, Vending Machine Mechanic, Water Plant Operator, Well
Driller

High-Tech

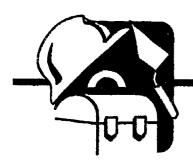
Computer Service Technician, Computer Programmer, Programmer Analyst, Systems Analyst, Technical Writer, Sales (mini and microcomputers, mainframes, software, telecommunications equipment, medical equipment, lasers), Trainer, Data Base Manager

Other

Auto and Insurance Sales, Security Guard, Corrections Officer, Custodian, Forestry Technician, Upholsterer



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Are women strong enough to work in nontraditional jobs?

There are several answers to this question.

Many nontraditional occupations don't require physical strength. Lab technicians, engineers and architects, for instance, do not do heavy lifting.

Women already perform hard physical work in many traditional fields. Nurses, for example, lift people in and out of beds and wheelchairs. Also, mothers regularly lift 50 or 60 pounds at a time when they carry toddlers, diaper bags and strollers, and full laundry baskets.

On many nontraditional worksites the heavy lifting is "all a matter of leverage," according to one woman. Once you figure out how to do it, you can lift as much as anybody.

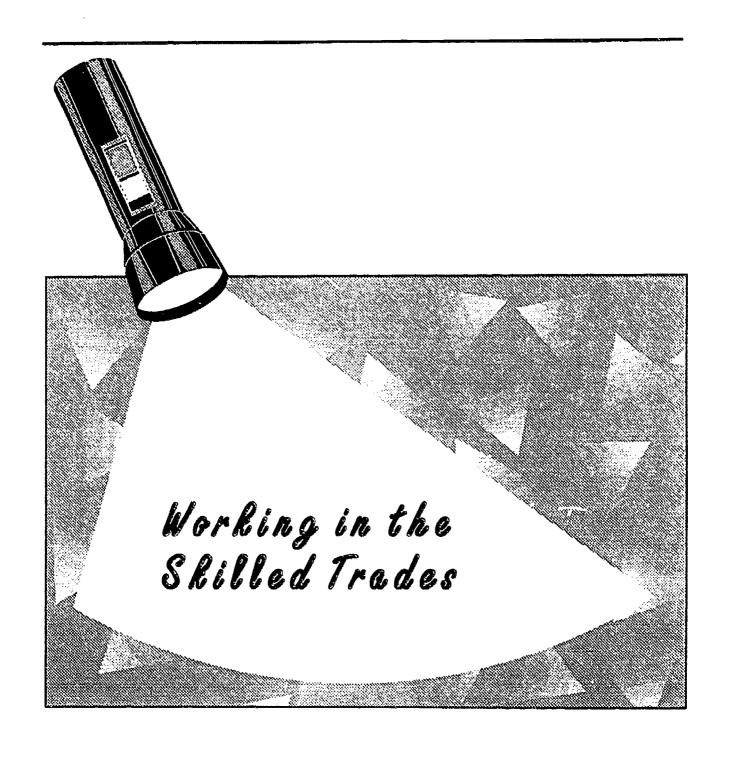
Some women can develop the necessary physical strength and some women cannot – just as some men are strong enough and other men are not.

Women who enter fields that do require greater strength have turned to weight lifting, working out with free weights, concentrating on upper body strength and developing hand and forearm strength.

In the following pages you will read about occupations in the skilled trades and occupations in the "high-tech" industry.



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Is a Job in the Trades for You?

	YES	NO
Do you like being outdoors?		
Do you like being able to move around?		
Do you like working with your hands?		
Do you like to fix things around the house?	and the second section	
Do you like to work with wood, metal, or machines?		
Are you physically fit (or are you willing to become physically fit)?		
Do you like to work on physically active projects?		***************************************
Do you want your work to result in a product that you can see and be proud of?		
Do you like to dress casually?		-
Do you want to earn enough money to support yourself and a family?	Observation in the Prince	
Do you want the opportunity to learn a whole variety of skills?	***************************************	
If you answered YES to many or all of these quest trades might be just the ticket for you!	tions, a	job in the

Source: Women in Higher Wage Occupations, M. Tully, Madison, WI: University of Wisconsin, Vocational Studies Center, 1990.





What Does it Take?

To work in to need to have	the trades, there are some basic skills and abilities you e. You qualify if you:
_	
~~~~~~	Have a high school diploma or GED (or are willing to get one before you apply for an apprenticeship)
	Are not afraid of heights and depths (or can get used to them with experience and proper safety precautions)
	Can work in extreme weather (hot and cold)
-	Don't mind getting dirty
	Have a basic understanding of math-fractions, volume, percentages (or are willing to brush up on basic math skills before you apply for an apprenticeship)
	Can recognize and name most hand and power tools by sight
If you meet t in an appren	hese basic requirements, you can apply to be trained ticeship of your choice.

Source: Nuts and Bolts, Newsletter of Chicago Women in the Trades, Spring 1989. Reprinted with permission.





## What is an apprenticeship?

It is a system to train people who want to work in a trade. An apprenticeship can last from 3 to 5 years.

### Would I get paid?

Yes. The apprentice-or person being trained-usually makes 30 to 50% of what the journeyworker makes. Each year the wage goes up. At the end of the program, the apprentice is "turned out" as a journeylevel (or journeyman) craftsperson.

## Does an apprentice go to school?

Yes. This varies from program to program. An apprentice might go to school one or two nights a week, or on the weekend.

### Why do I need school?

Most of what the apprentice learns is on the job. In addition, classes provide related technical instruction. In class, apprentices learn the theory behind what they practice on the job site.



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## You can be an apprentice in any of these fields:*

### **Construction Programs**

Bricklaying

Carpentry

Electrical (Construction)

Painting and Decorating

Plastering

Plumbing

Iron Working

**Sheet Metal** 

Steamfitting

Glazing

Environmental Systems Technology

Operating Engineer

**Cement Masonry** 

Sprinklerfitting

Roofing

Boilermaking

### **Industrial Programs**

Instrument Repair

Drafting

Machine Adjusting

Machinist

Foundry Technician

Patternmaking

Metal Fabrication

Tool & Die Making

Welding

Die Sinking

Pipefitting

Maintenance Painting

^{*}Apprenticeships vary from state to state.





### **Industrial Programs (continued)**

Power Engineering

Design

Injection Molder

**Machine Erector** 

List Truck Mechanics

**Electrical Maintenance** 

**Electrical Technology** 

Maintenance Mechanics

**Electrical Motor Repair** 

Millwright

Machine Repair

Maintenance Carpentry



Auto Body Repair

**Auto Mechanics** 

Barber

Appliance Repair

Communication Line Work

Electric Line Work

**Meat Cutting** 

Chef

Surveyor

Business Machine Repair

Baking

Truck Mechanics

**Heavy Duty Equipment Mechanics** 

Firefighting

Fire Medic, Paramedic, Emergency Medical Technician

Funeral Director

Graphic Artist

Vending Machine Mechanic

Source: Career Planning Workbook: From Astronaut to Zoologist, A.F. Lindner, Madison, WI: University of Wisconsin, Vocational Studies Center, 1987.





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## Won't guys on the job give me a hard time?

Some might. Others might be very supportive of you.

One thing to know is that men hassle other men who are new on the job, too. Part of the teasing you may experience might just be part of this initiation phase, and it will end soon.

Other hassling might be more serious. Some men are threatened by women who work in traditionally-male fields. It may take them a while to adjust. When they see that you are a good worker, they might begin to leave you alone.

Eventually they will understand that you want this job for the same reasons they do - to earn a good living, to support a family, for a sense of personal pride.

### Here is some advice from women in the field:*

Dee, a Sears appliance repair person: "The boss that put me in this job said you're so stubborn that just when the going got rough you'd dig in harder and try a little bit harder, and I think that's what it takes."

Alice, a printing press operator: "Have a good sense of humor, and don't take everything too seriously."

Ann, a life insurance agent: "Just decide you're going to stick to it, and stick to it. Before you enter into it, decide that's



Ψ. •

**—** 30

^{*} Source: Overcoming Barriers to Entering Nontraditional Occupational Preparation Programs, H.B. Thomas, et al., Florida State University, 1979.



what you're going to do, and give yourself a certain period of time, be it a year, be it two years, not just for a couple of months."

Doreen, a service station owner: "The first thing you have to do is get the confidence in yourself. Prove to yourself that you can do it and after that just do the job right and don't let any crack that someone might make bother you. Just overlook it and go ahead and do the job anyway."

### Skills for Dealing with Teasing:

Have confidence in yourself.

Stick with the job; don't give up after the first time someone harasses you or cuts you down.

Ignore as much of the teasing as you can; do your job well, in spite of remarks.

Have a good sense of humor.

### If It's Harassment, It's Illegal

Sometimes men won't adjust to a woman on the job. These men might do more than "tease." Some men have sabotaged equipment of women workers. Some make sexually threatening comments. There are laws to protect you.

Unwanted sexual attention, sexual jokes, inappropriate touching, or someone asking you for sex are forms of harassment. It's also harassment if co-workers put up pictures or posters of women in sexual poses.

For more information, contact your local Women's Bureau, or to get a free fact sheet write to the Women's Legal Defense Fund, 2000 P Street, N.W., Suite 400, Washington, DC 20036, or call (202) 887-0364.





## What do women in the trades say about their jobs?

"Glamorous—no. Dirty—yes. Exciting—I guess so. Would I recommend it? Only to the pioneer spirits. It brought out in me a strength I didn't know I had, but I guess construction is the last frontier open. I probably would have been crossing the prairies 100 years ago."*

"It has been extremely rewarding and continues to be a great challenge. I meet new, interesting people all the time and have developed lasting friendships with many co-workers. The few women I have seen in the trades enjoy their jobs and are well respected by fellow workers."**

"I love it. I wish more women would believe that they can do it and go for it. You can do anything you set your mind to. Keep a positive attitude."

"I love my work and know I'm good at it. I see people everyday who appreciate what I do and see positive results everyday."



^{*}Quoted in "A Nontraditional Story," J. Johnson, in *The HOME Magazine*, Summer 1990.

**All other quotes from *Women Working in Wisconsin*, M. Tully and G. B. Wacker, Madison, WI: University of Wisconsin, Vocational Studies Center, 1989.



## What do tradeswomen like about their jobs?

"The chance to work with a great group of people who respect me for what I know and for my skills. I have learned to like myself more and be more self-confident." (journey worker machinist)

"Starting a job with just the raw materials and ending up creating working machinery." (journey worker electrician)

"A sense of value—my skills and knowledge goes beyond the workplace. My friends and neighbors call upon me for help or advice." (steamfitter)

"Security and independence." (electronic technician)

"I have proven I can do some things people thought I couldn't do." (painter)

Source: Women Working in Wisconsin, M. Tully and G. B. Wacker, Madison, WI: University of Wisconsin, Vocational Studies Center, 1989.



### The Plus and Minus of Apprenticeships



For women, the wages are usually higher than for more traditional, female-dominated jobs.

You earn a living while in training for a career, and you get regular pay increases as your skills improve.

You are likely to have fewer-and shorter-periods of unemployment.

You acquire a skill that enables you to compete in the labor market.

You are paid for hours worked on the job-and hours spent in the classroom

You receive formal training on-thejob while being supervised by a qualified worker. The training is in all the processes necessary to become skilled in that occupation.

At the end of training, you receive a certificate of completion that says that you are properly trained and skilled in your chosen trade or craft. Apprenticeships are very competitive. Depending on the field you choose and where you live, it might take a year or more to get into the program.

The work can be very demanding physically and has little flexibility in working hours.

Working with men who are not used to having women on the job can be difficult. You must be assertive and know how to handle comments that may be directed to you because you are a woman.

Source: Career Planning Workbook: From Astronaut to Zoologist, A.F. Lindner, Madison, WI: University of Wisconsin, Vocational Studies Center, 1987.

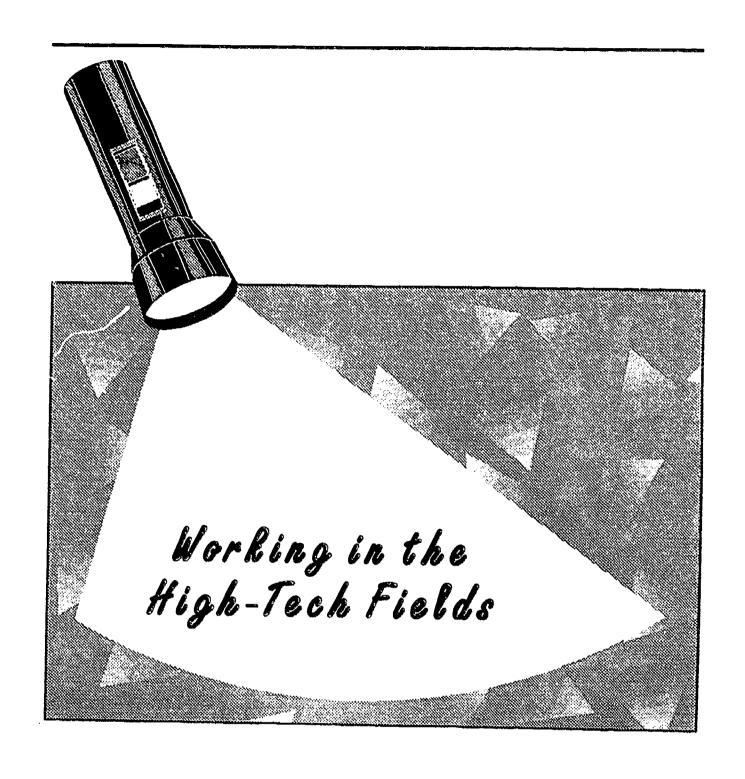


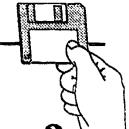


## Which Skilled Trades Interest You?

- -	ne list on pages 28 and 29.)	
Vhat have you xperience in	u already done that shows your interest a	and
<del></del>		







## What about a High-Tech Career?

The computer industry offers many higher-paying occupations. Some of the fastest-growing jobs in the next decade will be high-tech. The possibilities are so vast, we can't even predict what many of these new jobs will be!

Do you have any of these qualities?

	attention to detail
	problem-solving skills
	creativity
<del></del>	concentration
	patience
	ability to work under pressure
	adaptability
	persistence
	commitment

Those are the qualities that are most important for jobs involving computers.





# What are some high-tech careers?

This is a list of just some of the jobs in the high-tech world.

Computer Service Technician—repairs and maintains computers

**Programmer**—creates software (like word processing programs, computer games, or spreadsheet programs) that runs on the computer

Systems Analyst—helps offices set up a system that will be of the most use to them; adapts current equipment; recommends new equipment or new uses for equipment

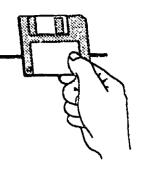
**Technical Writer**—writes users' manuals that explain how to use a software package or computer system

Salesperson—sells any or all of these products: the computers themselves (mainframes, mini and microcomputers); software (business programs, video games, educational software); supplies (disks, paper, ribbons, form sheets); and lots more

Trainer-teaches people how to use the equipment and software

Plus many, many more!





### What Does It Take?

To be a computer programmer or systems analyst, you need to continue your education after high school. You can get an associate degree in computer programming from a vocational school or community college. Or you can get a four-year college degree in computer science. Programmers with a four-year degree might get better, higher-paying jobs, but you still can get a good job with a two-year (associate) degree.

To be a computer service technician, you need one or two years of training in basic electronics or in electronic engineering. Or you can get a two-year associate degree at a community college program for electronic or computer technicians. After school, the



company that hires you will train you for another 3 to 6 months. Then, just like an apprentice in the skilled trades, you will get training from an experienced technician while you work.

To be a technical writer, you need a 2-year or 4-year college degree in journalism, English, a technical field or some combination of those fields.

You need good writing and editing skills, technical knowledge, communications skills and the ability to organize information.





### What If I Hate Math?

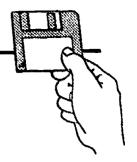
Lots of people—especially girls and women—hate math and are afraid to try it. Sometimes we hate math and science because we think we are supposed to hate them. This is especially true if we've been told that math and science are subjects for boys. The truth is that math and science are for everyone.

If you have "math anxiety," you may feel "blocked" or numb when you see an equation. Because of this, you might not even consider certain careers that you think require lots of math. This is too bad, since you might be excellent at some math-related careers—even if you hate math!

Computer work such as programming requires a certain kind of thinking process that often is associated with math. But what a programmer or systems analyst needs is the ability to solve problems and to think logically. You do not need to memorize mathematical formulas!

So, even if you hate math, check out a high-tech career!





## Giving Math Another Try

Did you know that the majority of adults panic when faced with a math question? We've all learned to be afraid of math. If we can just get rid of the fear, chances are we can handle the math.

One way to start is to take a very basic low-level math course. Succeeding at a first step like this will build up your confidence. Community colleges and high schools often offer adult education at beginning levels.

After your first basic course, you can move on to higher-level math.

Another step you can take is to go to the library and get the book Overcoming Math Anxiety by Sheila Tobias (Boston MA: Houghton Mifflin, 1980).

Remember-you might not need a lot of math to do what you want to do. Having confidence that you are smart and capable is what's most important.





# Which High-Tech Fields Interest You?

Choose from among computer-related, mathematical, medical or scientific occupations. Write down three fields that you would lik to find out more about.
What have you already done that shows your interest and experience in these fields?









#### Post Office Superintendent

As a post office superintendent Darlene has the challenges of running a business with 100 employees. With constantly changing rules and regulations, she also acts as a teacher interpreting the information and passing it on to the employees. After 15 years with the postal service, Darlene still feels there is never a dull moment.

After working as a waitress after high school, Darlene took a postal service exam and became a clerk. She asked to be "loaned out" to some bigger post offices so she could get more experience. For two years she worked part time and took free correspondence courses offered through the postal system on things ranging from bookkeeping to labor management.

Darlene explained that you have to be very mobile if you want to move up in the postal service, since your chances of becoming the superintendent in the town where you started are pretty slim. Darlene often commuted long distances, and once even moved to another town and went home on weekends as she worked her way up in the system. But within four years of starting she was appointed a superintendent.

Darlene said, "We all want to be liked, but you find out, especially in management, that not everyone is going to like you. You have to learn not to take things personally." Darlene found that "women often have to prove themselves more than men do, and if a woman fails in a job she becomes an example of why women shouldn't get these jobs."

Darlene attributes some of her success to her husband who gave her "150 percent of his support," and to a mentor who told her how to apply for promotions and encouraged her to attend seminars and develop an extensive resume.

Darlene's advice to other women is to "be aggressive and believe in yourself or you will never get ahead." She suggests that young women get as much education and training as they can.

Excerpted from M Tully, Women in Higher Wage Occupations: A Resource Manual, Madison, WI: University of Wisconsin, Vocational Studies Center, 1990.





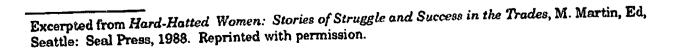
### **Drywall Rocker and Taper**

At age 40 and as a single mother, Fai decided she didn't want to be a secretary anymore. She entered the trades through knowing two men who had a sheet rock business and who were looking for a helper. She joined them without even knowing the right way to hold a hammer.

After learning the basics, she struck out on her own. She's been making her living that way for eight years now-longer than any other job she's ever had.

Fai also has helped develop a training program for young, economically disadvantaged women/girls called GRIT (Girl Renovators in Training). This program teaches carpentry, sheet rock, plastering and painting, as well as weatherization.

"Hundreds of buckets of mud, tons of sheet rock, nails and bandaids, miles of paper tape and endless gallons of paint later, I'm still at it," she says. She has earned enough to support herself and her daughter, and now is helping pay for her daughter's college education.





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Firefighter

Sally grew up in a strict Italian-Catholic family in Chicago. She learned the "appropriate" behavior and career options for girls, and she became a dental assistant. She worked in that field for a few years, but the work was not challenging enough for her.

1

Sally describes herself as "sassy, brassy, and always athletic." One day she saw an ad in the paper for firefighters, so she applied. Next, she went to the library and took out every book on firefighting entrance exams that she could find. Sally came in third out of over 100 applicants!

The first six months on the job were not too bad. The trouble started when Sally passed her probation. Her co-workers said she had proven her point so now she could quit, and when she didn't the harassment started in earnest. As far as the men were concerned, nothing Sally did was right. Some of the men deliberately gave her wrong information, and some men even went so far as to sabotage her equipment.

Sally learned that the fire chief was offering promotions to anyone who could harass her enough to get her to quit. This went on for about a year and finally Sally went to the police and fire commission. Eventually the chief was asked to resign and a new chief was hired. The new chief said that anyone who harassed Sally would be fired. The harassment stopped.

Sally and her husband recently adopted a baby, and her schedule of working 10 days (24-hour shifts) a month gives her lots of time at home. She and her husband have a "partnership" marriage and share parenting tasks. Her work schedule gives them some private time away from each other and some time together.





Sally attributes her success in remaining on the job for ten years to her own personality and the constant support of her husband. Sally said, "You have to be strong-willed and thick-skinned and comfortable with yourself to survive in a hostile environment." In the past four or five years, younger men have been hired on in the department. Since they have wives who work outside the home, they have questioned the way Sally is treated by the other men. And a few of the older men, who now have daughters who are employed, are beginning to change their attitudes toward Sally.

Excerpted from M. Tully, Women in Higher Wage Occupations: A Resource Manual, Madison, WI: University of Wisconsin, Vocational Studies Center, 1990.





#### **Building Maintenance**

When Erika got out of high school, she had no concept of having a career. She had taken many dance classes and thought that might continue to be an interest she would pursue, but she really didn't think in terms of supporting herself. She had a variety of jobs after high school, including working as a clerk in a hardware store, being a home health aide for the elderly, and driving a cab. From there she went on to drive a bus.

After driving a bus for two years, Erika transferred to a job in the "service lane." The work consists of putting fuel in the buses, checking the fluids, and cleaning the buses.

Erika now works in building maintenance. She is the only woman who does this kind of work. Erika said that one of the difficult things about her job is that the men still don't think she has enough strength or that she won't know how to do some things. But in reality, Erika believes that she can do any task required in her job. She finds that she has to be even more creative than her male co-workers because she has to find ways to work with tools that were designed for men.

Erika really enjoys her work in building maintenance because it offers a great variety of tasks and it has given her the opportunity to learn a lot of skills. She learned some skills through on-the-job training and some through taking classes at the local vocational and technical college.

Erika thinks she has been lucky to have a husband who has been very supportive of her. He is proud of the work she does, and he is not threatened by the fact that she earns more money than he does. Her parents have never really accepted her nontraditional job, and Erika thinks "they are still waiting for me to do something more acceptable that they can tell their friends about."



Excerpted from M. Tully, Women in Higher Wage Occupations: A Resource Manual, Madison, WI: University of Wisconsin, Vocational Studies Center, 1990.



### **Information Processing Consultant**

As an information processing consultant, Angela also is a project manager, a software designer, and a lead programmer. Angela describes software design in general as a field where "you take ideas and turn them into story boards that are given to a computer programmer. It's building what would be equivalent to a blueprint in architecture. It's taking an idea or a concept and broadening it out so that it can be delivered via the computer."

As a programmer Angela maintains about 20 programs that are distributed to students in middle and high school and college and technical college. Some of those programs she writes herself, and some of them are written by other people and she integrates them into a larger system.

Angela's favorite subject in high school was math. When she went to college she decided to become a math teacher. In high school there were as many young women as young men in the math courses Angela took. But in college, the higher the level of math course, the fewer women there were. Angela says she "was fortunate to find in a few of my math classes other women that I was able to work with. I felt lonelier in my math classes than in my education classes." But she stuck with it. She also took a lot of computer science classes.

After teaching in a high school for two years, Angela went on to graduate school to get her masters degree and go back to teaching. But while she was in graduate school she developed an interest in educational software and instructional design. She took courses in education technology as well as computer science.

In one computer science class she experienced harassment from her male peers. Angela remembers: "There was a lab that housed the computers we were to use for our assignments. Just about every time I would walk into this lab there would be something offensive on the bulletin board. There were a couple of guys that were into printing out graphics of Playboy Bunnies. One time they had on their screen the



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graphic of a naked woman. I approached them and told them that the kind of work they were doing first of all shouldn't be done in the lab and second it was offensive to a number of people in the lab. I never saw any other graphics on screens that were offensive, but several times I saw the Playboy Bunny on the bulletin board and each time I ripped it down."

Angela thinks that math is important to the study of computer science. Not so much in the details of math, but the way you think when you do math—the logic you use. The ability to remember the formula for finding the circumference of a circle doesn't matter; it's the problem-solving that matters.

What got Angela through was confidence—somewhere inside knowing that she could do it. Once she experienced her first success, that helped with subsequent successes.

Her parents did not encourage her in math. In fact, they wanted her to be a nurse, in which she had absolutely no interest. Angela says, "I'm a pretty independent person and this whole career decision-making was just an extension of that independence. I took the path that I wanted to take, and not the one that they chose. I'm very happy with what I'm doing now."

Based on an interview conducted by M. Nash, May 1991.



### Past the Finish Line

for Sara, Jill, Cathy and Margaret

Family
neither by blood nor choice
we five
caught in a welding flash of history
forged a sisterhood.

As students of the mysteries of our trade we uncovered the phasing of our cycles: one falling in defeat signalled another

rising in triumph

and so we carried each other through sine waves of emotion re-charging each other's determination with stored-up capacitance for

> derision shunning loneliness.

We survived isolation by the law of mutual induction:
magnetic fields of bodies
separated physically
can still overlap and empower.

And where a 100-year curse had vowed 'no woman shall pass here' we passed:

all five

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as one.



And then

in the crash of a moment the five-who-would-not-be-divided were divided. There are some odds

the most valiant pioneer

cannot overcome.

A woman pedaling home her bicycle is no match for a drunken man at the wheel of his car.

In the crash of a moment the five became four

never again except in memories and photographs to be five;

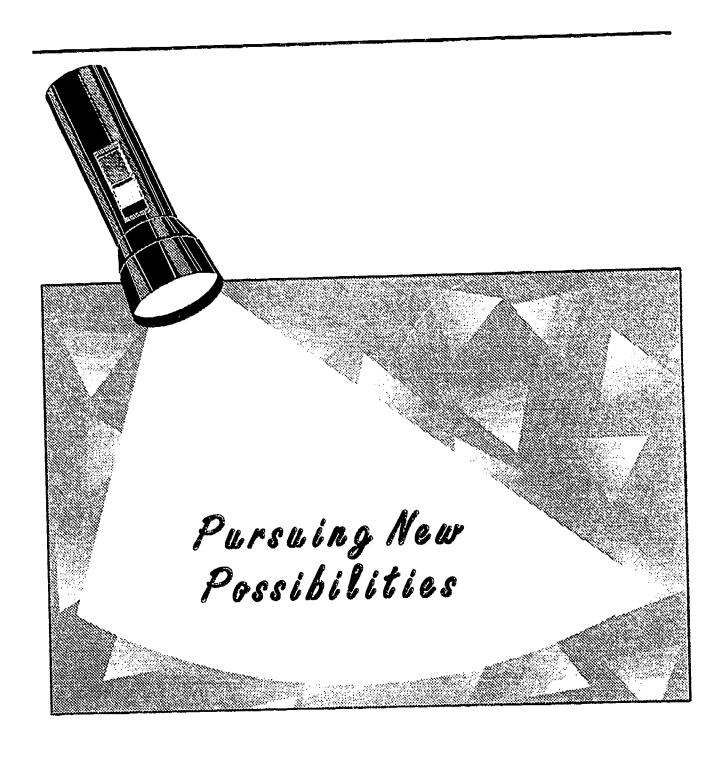
and yet always to remain five.

Margaret Margaret Margaret you call forth our best a bridge a balance a beacon.

by Susan Eisenberg



Source: S. Eisenberg, It's a Good Thing I'm Not Macho, Boston, MA: Whetstone Press, 1984. Reprinted by permission of the author.





### **Pursue New Possibilities**

Earlier in this workbook you wrote down three trades and three high-tech fields that interest you. (See pages 35 and 44.)

Choose the ty	wo you are most excited by. Write them here:		
it's time to di	ow that you have an introduction to higher wage occupations, 's time to dig a little deeper into the areas you have chosen to kplore. The following pages help you take the next steps.		
Things to do:	Check them off as you complete them. See the following pages for help.		
	Talk to a counselor at a high school or community college. Ask for more information about the two fields you want to explore.		
Military distribution (Agen	Spend time with someone who works in the fields you chose. This is called "job shadowing."		
	Do a computerized career and education search to get more information. Computerized career information systems are available to you at college career counseling centers and high schools.		
	Tap into a support network. Contact people on a		



the field.

# Step One: Talk to a Career Counselor

High schools and colleges have counselors who are specially trained to give you help in exploring careers. When you make an appointment to meet with the counselor, use these questions as guides. Make up your own questions, too.

ake notes here as you talk with the ca	areer counselor.
The fields I am interested in are	and
can you tell me more about each o	of them?
rield 1	
rield 2	
What other jobs are similar or rel	
Field 1	



# Step One: Talk to a Career Counselor (continued)

Can you help me contact someone working in these fields so I can "job shadow" them?

Field 1	<del></del>	 	 <del></del>
Field 2			



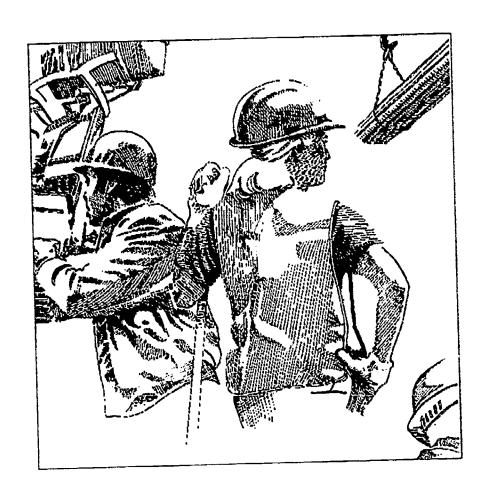


# Step Two: Job Shadowing

Job shadowing is one of the best ways to learn about a new job. In job shadowing, you spend the day (or part of a day) with someone who works in a field that you find interesting.

By job shadowing, you can discover what a typical day on the job is like. You also have the opportunity to ask questions. Some questions can be answered as you watch and learn. Other questions can be answered by the person you are shadowing. Try to find a female in your fields of interest to shadow.

Use the following pages to collect information as you job shadow.





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# Step Two: Job Shadowing (continued)

FIELD 1. Job Title
What does someone in this job do all day?
What is the working environment like?
What training (or education) do I need for this job?
What are the best parts of this job?
What are the drawbacks of this job?
What advice would you give someone wanting to enter this field?
Other notes about the job:



# Step Two: Job Shadowing

(continued)

FIELD 2. Job Title
What does someone in this job do all day?
What is the working environment like?
What training (or education) do I need for this job?
What are the best parts of this job?
What are the drawbacks of this job?
What advice would you give someone wanting to enter this field?
Other notes about the job:



# Step Three: Use a Career Search

High schools and colleges have a lot of career information. Often this information is available on a computer as part of a Career Information System. Career information systems also provide the information in books. Look for books on occupations, educational programs, financial aid, and careers.

Use this sheet to record the information you collect about each of the fields you are interested in.

What is required to enter this field? Look for physical qualifications (strength, good vision, etc.) and for previous work experience or certification.		
FIELD 1	_	
FIELD 2	_	
What training or education do I need?		
FIELD 1		
FIELD 2	<b></b>	



# Step Three: Use a Career Search (continued)

Will there be future?	a demand for workers in these fields in the
FIELD 1	
Are there job	s available near where I live?
FIELD 1	
What is the sa	
FIELD 2	
	ortunities for advancement?
FIELD 1	
ee.	



## Step Four: Tap Into Support Networks

Many jobs have related professional organizations. For women in nontraditional fields, this can be an important source of support.

Many fields have both national and local organizations. Some national organizations are listed on the following pages. To find local organizations, get out the "Yellow Pages." Look under such headings as Labor Organizations, Business and Trade Organizations, Professional Organizations, Associations, or other headings. Write or call any of these organizations that relate to your areas of interest:

# Science, Medicine & Engineering

American Medical Women's
Association, Inc.
465 Grand Street
New York, NY 10002

Association for Women in Science Suite 1122 1346 Connecticut Avenue, N.W. Washington, DC 20036

Women in Cell Biology
Department of Biological Chemistry
School of Medicine
University of California
Davis, CA 95616

Women in Science and Engineering c/o Dr. Miriam Schweber 22 Turning Hill Road Lexington, MA 02171

Society for Women Engineers 345 E. 47th Street New York, NY 10017

#### Mathematics

Association for Women in Mathematics
Women's Research Center
828 Washington Street
Wellesley College
Wellesley, MA 02181

Women and Mathematics Education Box 831 Prescott, AZ 86302

#### Sales

National Association for Professional Saleswomen 2088 Morley Way Sacramento, CA 95825

National Network of Women in Sales P.O. Box 95269 Schaumburg, IL 60195

Women in Sales Association 21 Cleveland Street Valhalla, NY 10595



#### Communications

International Organization of Women in Telecommunications 13450 Maxella Avenue #291 Marina Del Ray, CA 90291

Women in Cable Suite 703 2033 M Street, N.W. Washington, DC 20036

Women in Communications, Inc. P.O. Box 9561 Austin, TX 78766

#### **Business and Professional**

American Association of University Women 2401 Virginia Avenue, N.W. Washington, DC 20037

Association of Women in Architecture 7440 University Drive St. Louis, MO 63130

Business and Professional Women's Foundation 2012 Massachusetts Avenue, N.W. Washington, DC 20036

Federation of Organizations for Professional Women Suite 403 2000 P Street, N.W. Washington, DC 20036

National Alliance of Home-Based Businesswomen P.O. Box 95 Norwood, NJ 07648 National Association of Bank Women 111 E. Wacker Drive Chicago, IL 60601

National Association of Black Women Entrepreneurs P.O. Box 1375 Detroit, MI 48231

National Association of Female Executives, Inc. 2 Park Avenue New York, NY 10016

National Association of Women Business Owners Suite 1400 500 N. Michigan Avenue Chicago, IL 60611

National Association of Women Lawyers 1155 E. 60th Street Chicago, IL 60637

Women Entrepreneurs 3061 Fillmore Street San Francisco, CA 94123

Women in Management 525 N. Grant Westmont, IL 60559



#### Trades

Apprenticeship and Nontraditional Employment for Women (ANEW) P.O. Box 2490 Renton, WA 98056 (206) 235-2212

Coalition of Labor Union Women 15 Union Square New York, NY 10003 (212) 242-0700

National Tradeswomen's Network c/o Chicago Women in Trades 37 South Ashland Avenue Chicago, IL 60607 (312) 942-0802

Tradeswomen, Inc. P.O. Box 40664 San Francisco, CA 94140 (415) 821-7334

### Computers

Association for Women in Computing P.O. Box 2293 Grand Central Station New York, NY 10163

Women's Computer Literacy Project 1195 Valencia Street San Francisco, CA 94110

Women in Information Processing Lock Box 39173 Washington, DC 20016

#### General

Center for Women's Policy Studies Suite 508 2000 P Street, N.W. Washington, DC 20036

National Association of Working Women (9-5) 1224 Huron Road Cleveland, OH 44115

National Women's Education Fund 1410 Q Street, N.W. Washington. DC 20009

National Women's Employment and
Education
P.O. Box 959
Suite 622
118 N. Broadway
San Antonio, TX 78205

Wider Opportunities for Women 1325 G Street N.W. Washington, DC 20005 (202) 638-3143

Women's Equity Action League 733 Fifteenth Street, N.W. Washington, DC 20005



### For Further Reading

In recent years quite a few books have been written on women and nontraditional work. If you want to read more about alternative career choices, check out some of the books listed below. You might also ask at your local library or career counseling center for other material.

- Hard Hats, Boots and Goggles: Jobs That Pay. Center for Women's Services, Ellsworth Hall, Western Michigan University, Kalamazoo, MI 49008-3899. 1986.
- Hard-Hatted Women: Stories of Struggle and Success in the Trades. Molly Martin, Ed. Seattle, WA: Seal Press, 1988.
- High-Tech Career Strategies for Women. Joan Rachel Goldberg. New York, NY: Collier Books, 1984.
- Hitting the Nail on the Head: The Woman's Basic Guide to Carpentry. Patricia O'Connor, with C. L. Trotter. San Diego, CA: Nugget Press, 1989.
- It's a Good Thing I'm Not Macho. Susan Eisenberg. Boston, MA: Whetstone Press, 1984.
- Overcoming Math Anxiety. Sheila Tobias. Boston, MA: Houghton-Mifflin, 1980.
- Tradeswoman Magazine. Published by Tradeswoman, Inc., Box 40664, San Francisco, CA 94140.
- Women Working: Physical Fitness. Christine Shelton Walters and Carole Oglesby. Salem, NH: Tri-Equity, Inc., 1986.
- Women Working: Technical Careers. Paul Lizotte and Roger Lizotte. Salem, NH: Tri-Equity, Inc., 1986.



### **Videos**

For more information—and possibly some inspiration—view a video on women in the trades or other nontraditional occupations. Ask at your career counseling center, women's center, public library, or vocational school to see if they have them.

There are many good videos out there. Here are just a few:

**Building Lives** 

Building Lives portrays the moving personal accounts of three women who journey into the male-dominated world of construction. These women, who formed their own construction company, speak of their struggles and triumphs and of how they have passed on what they learned through teaching carpentry workshops to other women.

For more information contact: Building Lives Production, 116 Colonial Village, Amherst, MA 01002.

#### Go For It!

Nine women in Alaska are seen on the job, or as they talk about their work experiences. They explain their training, the type of work they do and why they chose it, and the rewards they experience from it. The women work as cement masons, electricians, carpenters and woodworkers.

For more information contact: Illinois Vocational Curriculum Center, Sangamon State University, Building F.2, Springfield, IL 62708, (217) 786-6013.

Mythbusters

Attempts to "bust the myths" both men and women hold about women entering the skilled trades. The viewer is led through stories that illustrate popular misconceptions people hold about nontraditional work for women. It encourages women to take a second look at traditionally-male fields.

For more information contact: The Center for Occupational Education, Jersey City State College, 2039 Kennedy Blvd., Jersey City, NJ 07305-1597, (201) 547-2188.



## **Videos** (continued)

### Trade Secrets: Blue Collar Women Speak Out

Ironworker, welder, sprinklerfitter, electrician: four women reveal how their lives changed when they stepped into the traditionally-male world of skilled crafts. They tell how they overcame physical and personal obstacles to find satisfaction in their trades, greater power, and most of all, a new sense of identity.

For more information contact: Chicago Women In Trades, 37 S. Ashland, Chicago, IL 60607, (312) 942-1444.





### Choices

The work world offers you three choices. You can:

- 1) choose a traditional career
- 2) choose a nontraditional career
- 3) choose not to decide right now

If you select Number 3 and choose not to decide right now, remember that other people will decide for you. After all, lots of people expect men to be construction workers, executives, and doctors and expect women to be secretaries, nurses, and teachers. Many people you deal with will try to push you in a direction they think women should go. When you go to the employment office, personnel counselors might automatically advise you on the "women's jobs" that are available.

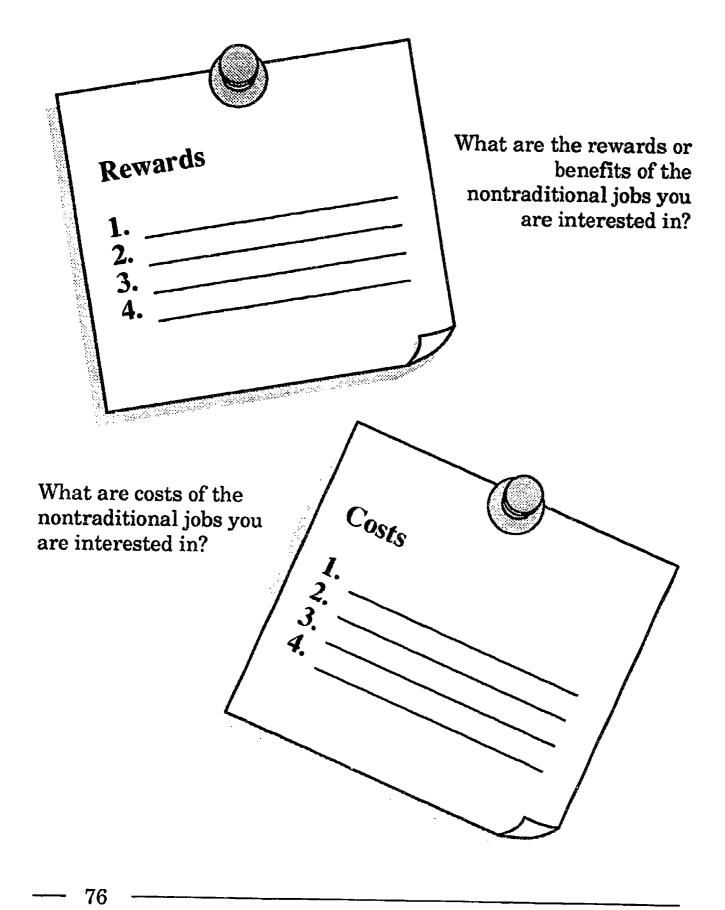
When you do what others want you to do, you are letting other people decide for you.

When you do what you want to do, you are deciding for yourself.



Source: Overcoming Barriers to Entering Non-Traditional Occupational Preparation Programs, by H.B. Thomas, et al., Tallahassee, FL: The Florida State University, 1979.

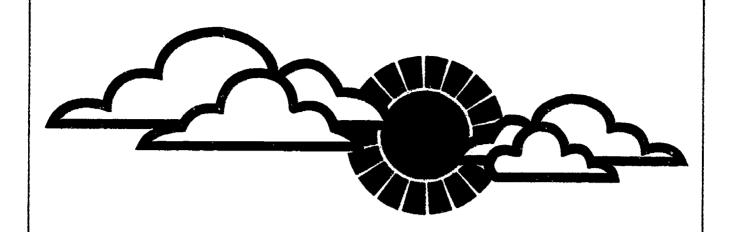
# Weighing the Rewards and Costs



# **Problems and Solutions**

My barriers to goin	g into a nontraditional job are:
***	
Vays I can overcon	ne these barriers are:
Next Step	S
As a result of what	I learned in this workbook I am going to:





You might be entering a challenging new world when you choose a nontraditional career.

You might have to work harder to prove yourself.

# YOU CAN SUCCEED!



